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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LACLAIR, DARCY D

ART UNIT

PAPER NUMBER

1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,913	Applicant(s) FUKUNAGA, ATSUSHI	
	Examiner Darcy D. LaClair	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/11/06, 8/11/06, 5/19/06</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-5 and 7-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,569,980.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications claim a curable resin composition which comprises a polyoxyalkylene polymer containing a reactive silyl group, and a second hydrocarbon based plasticizer. In the instant application, this is generically claimed (see instant claim 1,2) as a hydrocarbon based plasticizer. In '980, a polyoxylakylene polymer is given as one of the possible polymers (a) (see '980 claim 1, 8) and later claimed specifically (see '980 claim 5). For the hydrocarbon based plasticizer, an epoxy

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group resin is claimed, (see '980 claim 1, 6, 7) which would act to increase the modulus of elasticity, or plasticize the composition. Claim 7 of the instant application requires that the reactive silyl group is an alkoxysilyl group. Claims 2-4 of '980 outline a variety of alkoxysilyl groups for use as the reactive silicon group, both generically and by specific species. With regard to claim 8 of the instant application, this describes properties inherent to the resin, and would be met by any similar resin composition.

The copending application does not specifically claim a needle crystal filler (see instant claims 1c, 5) or a paraffin-based hydrocarbon (see instant claims 3-4), however in the specification of '980, it is indicated that other plasticizers are also useful in the composition, such as paraffin-type hydrocarbons (See '980 col 11, line 25-56) Fillers such as organic and inorganic fibers, calcium carbonate, and silicas are also taught for the composition. (See '980, col 11 line 3-9) Inorganic fibers would cover such compounds as asbestos, glass fiber, and carbon fibers, and wollastonite and sepiolite are silica compounds. (see instant claim 5) Note MPEP 804: "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

3. Claims 1, 3, 5, and 7-8 are directed to an invention not patentably distinct from claims 1-2 and 5-8 of commonly assigned U.S. Patent No. 6,569,980. Specifically, see the discussion set forth in paragraph 2 above.

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4. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned US Patent No. 6,569,980, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

5. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al. (US 6,300,404)

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8. Claim 1 requires a curable resin composition comprising, by weight, 100 parts of a polyoxyalkylene polymer (a) containing at least one reactive silyl group, (b) 5 to 50 parts of a hydrocarbon based plasticizer, and (c) 10 to 200 parts by weight of a needle crystal filler. Nishimura teaches a curable polymer composition comprising an oxyalkylene polymer having a silicon containing group which has a hydroxyl or hydrolysable group bonded to the silicon atom and a paraffinic hydrocarbon. (see abstract) The oxyalkylene polymer having a silicon group which has a hydroxyl is consistent with applicant's polyoxyalkylene containing at least one reactive silyl group, and in fact a significant number of applicant's detailed description substantially overlaps with Nishimura with respect to the polyoxyalkylene. (See applicant's p. 3 line 15 through p. 12 line 25 compared to Nishimura col 1 line 65 through col 5 line 20) The hydrocarbon is preferably between 1 and 60 weight parts per 100. (see col 5 line 58-59) The paraffinic hydrocarbon constitutes a hydrocarbon based plasticizer, and in fact Nishimura directs that any additional plasticizer added must be balanced with the paraffinic hydrocarbon already present, because the total amount of plasticizer may not exceed 150 weight parts. (see column 6 line 53-64) This demonstrates that paraffin is known and accepted as a plasticizing compound. With regard to the needle crystal filler, Nishimura teaches several types of filler which may be incorporated, including calcium carbonate, asbestos, glass fiber, and carbon fiber. The asbestos and glass fibers constitute fillers with needle like morphologies. (see col 8 line 1-10) In the examples, 120 parts by weight of a filler are used. (col 8 ln 40) This demonstrates the range in which Nishumura considers the fillers to be of use. Because these fillers are

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taught as optional, the range in which they are taught is from 0 to around 120 weight parts, which significantly overlaps with applicant's claimed range.

9. Claim 2 narrows the range of hydrocarbon based plasticizer (b) to 20 to 40 parts by weight, per 100 of (a). Nishimura teaches a preferable range between 1 and 60 weight parts per 100, which covers the entire range. (see col 5 line 58-59)

10. Claim 3 requires that (b) is a paraffin-based hydrocarbon. Nishimura teaches the presence of a paraffinic hydrocarbon (see abstract) and additional plasticizers including chlorinated paraffins are also taught. (see col 7 line 7-8)

11. Claim 4 requires that (b) is a cycloparaffin or isoparaffin-based hydrocarbon. As the paraffinic hydrocarbon, Nishimura teaches 2-ethylheptane, 3-methylheptane, 2-methyloctane, 3-methyloctane, 2-methylnonane, 3-methylnonane, 4,5-diporopyloctane, 3-methyltridecane, 6-methyltridecane, and the like. (see col 5 line 5 - 55) These constitute a significant group of isoparaffin-based hydrocarbons, and significantly overlap with applicant's teachings (compare Nishimura to applicant's p. 13 line 32-35).

12. Claim 5 requires that the needle crystal filler is selected from the group consisting of sepiolite, asbestos, wollastonite, needle-crystal type calcium carbonate, glass fiber, carbon fiber, and organic fiber. Nishimura teaches calcium carbonate, asbestos, glass fiber, carbon fiber, and the like. (see col 8 line 5-10)

13. Claim 7 requires that the reactive silyl group contains at least one reactive silyl group in each molecule that is an alkoxysilyl group. Nishimura teaches that the number of the reactive silicon-containing groups contained in the oxyalkylene polymer is at least

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one, preferably between 1.1 and 5, on average, per one molecule of polymer. (see col 3 line 58-60)

14. Claim 8 requires that the curable resin composition have an extrudability of not less than 200 g/minute and a final fixability not less than 180 g. With respect to the polyoxyalkylene polymer, both Nishimura and applicant present nearly identical teachings. (see discussion above with respect to claim 1, paragraph 5) There is also a significant overlap of paraffinic groups (see discussion above with respect to claim 4, paragraph 8) Additionally, the composition meets applicant's claimed limitation for needle crystal filler, in particular, with the asbestos, glass, or carbon fiber. (see discussion with respect to claim 5, above paragraph 9) In light of these similarities, it is expected that the compositions should display similar properties, and therefore that the extrudability and fixability of Nishimura's composition would achieve the requirements of applicant's claim.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US 6,300,404) as discussed above, in view of either or both of Katayama et al. (US 5,164,172) and/or Fairchild et al. (US 6,022,517)

18. Claim 7 requires that the needle crystal filler in the curable resin composition of claim 1 is a needle-crystal type calcium carbonate. Nishimura teaches a curable polymer composition comprising an oxyalkylene polymer having a silicon-containing group and a paraffinic hydrocarbon, providing a cured material having improved tack. (see abs) Fillers such as mica, graphite, clay, calcium carbonate, asbestos, glass fiber, and carbon fiber are suggested. (see col 8 line 1-10) This invention is intended for use as a one or two pack type curable composition, used as a elastic sealing material, coating, adhesive, or caulking material. (see col 8 line 26-29) Nishimura focuses significantly on the polymeric portion of the composition. While the use of various fillers, including calcium carbonate, is clearly taught, Nishimura fails to teach specifically the characteristics of the fillers applied.

19. Both Katayama ('172) and Fairchild ('517) teach acicular shaped calcium carbonate particles. An acicular shape is consistent with "needle crystal" structure.

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Katayama teaches, specifically, an acicular-shaped aragonite calcium carbonate crystal form (see '172 abstract), which is especially used in plastics to improve rigidity, surface smoothness, and whiteness, while also solving problems of workability, labor hygiene, and cost. (see '172 col 4 ln 24-36) It further can be used as a thickener for pastes, sealing materials, and paints, and is particularly useful due to the thixotropy that its acicular (needle) shape provides. (see '172 col 4 ln 50-53) Fairchild teaches a calcium carbonate composition with both calcite and aragonite crystalline morphology in an acicular shape, for use in plastics and sealants, where it imparts reinforcing properties, rigidity, and impact strength. (see '517 abstract) Both Katayama and Fairchild provide clear teachings as to the structure of the calcium carbonate, as well as clear motivation to make the selection of these particular calcium carbonate structures (needle shaped and crystalline) when considering the filler to be applied in a caulk, sealing material, paint, or paste.

20. It would be obvious to one of ordinary skill in the art to consider the invention provided by Katayama and/or Fairchild when creating a composition for use as a caulk, sealant, coating, or other related product, such as adhesive. These particles clearly provide an advantage when used in a composition, and these particles are composed of a material which is recognized as an appropriate generic type of filler by Nishimura. As such, a practitioner of ordinary skill in the art would readily achieve the claimed composition with regard to both the resin and the needle crystal type calcium carbonate filler by application of the combined teachings discussed herein.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Thursday 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796